The Role of Motivation and Understanding in the Change of Teaching Practices

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This is a reflection on a case of in-service teacher education. Two Swiss teachers, assisted by a change agent, were developing an innovative teaching approach, inspired by Wiggins & McTighe's methodology Understanding by Design (UbD). While one developed a real understanding and mastery of this approach – improving therefore his professional skills – the other didn't. The analysis developed through the following pages tries to better understand why this happened. The situation is examined through the scrutiny of the relationship between teachers' motivation and their understanding of UbD, using a mixed methods methodology.

Literature Review on Teacher Professional Development in Context: Change, Coaching and Motivation

Teacher professional development is a widely debated issue. Various scholars stress the importance of this factor in the improvement of schools (Darling-Hammond, 1993; Corcoran, 1995). Today, the accent in teacher development is set by various scholars on the change of the current teaching practices (Evans, 1996; Fullan, 2001). Smith and Gillespie (2007) emphasize that if a teacher is to change her way to teach, various factors should be present: teacher motivation for professional development, teacher concerns, teacher self-efficacy, teacher appropriate cognitive style and teacher reflectiveness. Darling-Hammond (Darling-Hammond, 2009) argues that contemporary teacher change should be more professionally-oriented, overcoming the prevailing current bureaucratic approaches. In particular, substantial changes in teaching need to be focused on teachers' acquisition of new beliefs and understandings. Following Guskey (2002), if teachers are to change their beliefs and understandings, they need to be previously motivated. Moreover, while practicing change, they should perceive some evidence of improvement in their students' learning. According to him, a change in teachers' educational paradigms is usually the result of an ongoing process characterized by the presence of strong links between theory and successful practice.

Teacher motivation is a very important factor in teacher professional development and change (Hord, 1997). Abrami et al. (2004) in a study about teacher motivation in implementing

cooperative learning state that teachers need to believe that they can be successful in putting into practice the innovation, and that follow-up can play an essential role in the building of this self-confidence. Hildebrandt and Eom (2009) show that the strength of motivation in improving and becoming better teachers don't seem to decrease with the age. Bray-Clark and Bates (2003) stress the importance of self-efficacy beliefs in teachers' professional development and also call for more follow-up in schools. The relationship between cognitive and motivational factors has been extensively investigated in the psychological domain (D'Ydevalle & Lens, 1981, Weinert & Kluwe, 1987; Weiner, 1992; Sorrentino & Higgins, 1986; Higgins & Sorrentino, 1990), hence being a relevant issue deserving more attention also in the field of teacher professional growth. Indeed, one of the issues dealt with in this article is the relationship between understanding (by various actors) and motivation.

The seminal work of Joyce and Showers highlights the effectiveness of coaching in introducing innovation in schools (Joyce & Showers, 1988). Borko (2004) argues that, to be really effective, teacher in-service programs should include the role of facilitator, a figure capable to sustain the teachers using both a "near-vision" and a "distance vision" prescription, the former being more psychological, and the latter more system oriented. The function of change agent[1] – a sort of coach/facilitator usually linked to the introduction of some innovation in the schools – is widely described in the literature (Egan, 1985; McLaughlin, 1990; Hall & Hord, 1987). Her main task is to assist the schools in their improvement journey. LeFevre and Richardson (2002) show how this role can be enacted in different ways, on a continuum ranging from "internally developed/collaborative" to "externally scripted/directly instructive".

The action described in these pages can be described as a change process actively performed by two teachers and facilitated by a change agent, whose action was close to the "internally developed/collaborative" pole of LeFevre and Richardson's continuum.

[1] In the text, the word "change agent" will be used in reference to the whole change process, while, when speaking more concretely of changing teachers' practices, the used term will be coach.

Context of the Study

DAAP[2] is a school improvement project taking place from several years in some Swiss secondary vocational schools. It is funded by the State of Cantone Ticino[3]. It encompassed in its original form a particular kind of consultancy, performed by a number of critical friends whose charge was to assist the schools in the development of their own self-evaluation processes, following an action research design (Berger & Ostinelli, 2006). After this first stage, the experience expanded itself, becoming in some cases a wider form of continuous school improvement.

The task of critical friend was and actually is performed by a change agent (the Ostinelli) with previous experience as academic educational researcher and school teacher at the primary, middle and high school level. Because of these particular features, this figure can be better described as a School Improvement Advisor-researcher / SIA (Ostinelli, 2008a, 2008b, 2012; Berger & Ostinelli, 2006), combining in itself the features or the critical friend with the ones of the educational researcher. One of the main DAAP activities was a project involving two schoolteachers, based on UbD (Wiggins & McTighe, 1999; McTighe & Wiggins, 1998). During the course of the whole process, the action of the SIA evolved through three consecutive stages:

- The introduction stage
- The acceptance stage
- The integration stage

In the introductory stage the action was performed mainly at the entire school level rather than with individual teachers, and its main target was to establish the SIA as a recognized actor inside the school. During the following stage (acceptance) the SIA was recognized not only as member of the group, but also as a true educational expert. This happened actually through the collaboration with groups of actors. Finally, the SIA became integrated into the culture and the dynamics of the school, acting as a catalytic element in the process of continuous improvement, and deploying widely her/his functions, including his role as researcher. The development of this

[2] Dispositivo di autovalutazione e autoanalisi del piano-quadro (Curriculum's Self-evaluation and self-analysis program)
[3] A Swiss canton.

three-step process extended itself over six years, and the experience depicted in these pages was performed at the beginning of the third stage, when the school asked for an innovative teaching methodology and agreed in experimenting the practice of UbD with two teachers.

Circles of Understanding

The main purpose of UbD is to lead the pupils to gain a deep understandings of some "big ideas", rather than passively reproducing the curriculum's contents perhaps taught through ex-cathedra lessons and assessed by means of written tests (Wiggins & McTighe, 1998; 2007; McTighe & Wiggins, 1999). There is a relatively wide evidence that UbD is effective in leading more pupils to acquire effective reasoning skills in a satisfactory way (McTighe & Seif, 2003; Prince, 2004).

While setting up a cycle of lessons, the teacher uses a particular methodology, called "backward planning": firstly, she states the foreseen understandings; then she/he defines the acceptable evidence (assessment); finally, she plans all the necessary learning units. Actually, it all starts with a broad presentation to the students (*where are we going?*); then, their motivation is aroused through interesting and stimulating questions to be discussed (*hook the students*); thereafter the pupils will be equipped and scaffolded in order to conduct a rigorous inquiry on the theme (*explore & equip*); these stages are followed by a deep reflection (*rethink & revise*) and the whole process ends in a final "product" (*exhibit & evaluate*). Moreover, there are two conclusive points: "*tailoring"*, consisting in the differentiation of instruction, and effectively *organizing* learning experiences. Cooperative and collaborative forms of learning are widely used, and where appropriate, the evaluation is formative; rubrics are widely used.

Obviously, the adoption of this methodology usually requires the teacher to operate some deep changes in her usual way to teach and these should be based on a firm understanding of the approach. Not only: we could say – somewhat reminiscent of Gadamer's idea of hermeneutic circle (Gadamer, 2004; Cole & Avison, 2007) – that the whole process should encompass a multi-level development of understanding, therefore not limited only to the teacher. Ideally, while this latter develops her/his professional skills, the "framework" of the methodology becomes clearer; in the meantime, the pupils build up deep and authentic forms of understanding, and the SIA can reflect more deeply on the dynamics of the whole process while exerting her/his coaching function, planning, when necessary, opportune changes. This whole process can be

described as a form of action research including a circle of understanding: this circular nature is common to other kinds of action research (Lewin, 1948; Osterman & Kottkamp, 1993; Calhoun, 1993; Stringer, 1999). If the SIA is to facilitate the whole process, it is very important for s/he to act on the basis of a framework including all the relevant information. This kind of process is well described by Efron and Ravid (2013, page 238):

> "As the cycle of action research ends – with the implementation of the study's findings – a new cycle of inquiry begins, with more questions to pursue and additional issues to explore. This is because as you put your research conclusions into action you need to monitor the impact of these actions. It is possible that your intended objectives will not be fully achieved or that new, unforeseen problems will present themselves. In these cases, some modifications will be required."

Methods

Research themes

In this case study some issues were investigated, namely the:

- relationship between understanding and motivation in the change of teachers practices
- role and the needed amount of information in the coaching to teachers in innovative (and therefore partly unknown) situations

Methodology

From a methodological standpoint, this action research uses a mixed-methods methodology, combining interviews and data coming from questionnaire administration. Both approaches are described in the following lines.

Interviews

The choice of the subjects participating was done by convenience, and the information was gathered through semi-structured interviews, based on a list of questions, but also allowing the option to introduce new issues if new ideas were brought up. The results were subsequently coded and analyzed. In order to confirm this information, the data obtained were compared in a

following moment with the results stemming from the administration of a motivational test, in a sort of triangulation process (Pourtois & Desmet, 1997).

The SIA worked extensively with both teachers during an entire school year, meeting with them on a weekly basis. During these meetings he took note of various aspects, like discussions, schemes, etc. These data were very useful in performing a reflection and in the definition of the issues to be dealt during the interview. For a better understanding of the whole situation, both teachers were interviewed and the answers were recorded through a mini-disk device, and subsequently transcribed and re-submitted to them for a content validation. Finally they were coded, categorized and synthesized through a grouping matrix (Miles & Huberman, 2003). Both teachers consented to answer the items pertaining to two sub-scales of the MotOr test (Ostinelli et al., 2007; Ostinelli et al., 2016).

Questionnaire

MotOr is a validated psychological test that measures the level of five basic corresponding individual psychological needs through five sub-scales, and is based on the idea of needs fulfillment (Lewin, 1935, 1936; Atkinson, 1964), where external goal objects (situations) can fulfill some motives (internal needs) present inside the subject, and lead her/him to express a motivated behavior. It is widely known that individual motivation manifests itself both in rational and emotional (or non-rational) terms (Atkinson, 1964; McClelland, Koestner and Weinberger, 1989; Epstein, 1994; Roeser, 2004). MotOr measures two kind of motives: the *Primary Motivation* (PM) – most intrinsic in its character and developed during the first years of life; the *Rational Motivation* (RM), more extrinsic in its nature and developed through education and socialization. This model is mostly inspired to Deci and Ryan's Organismic Integration Theory (Deci and Ryan, 1985). Moreover, MotOr measures also the subject's *Stated Behaviour* (SB) on the workplace. In this study, only two of the five original scales of the test were used: Variation, measuring the propensity towards innovative vs. conventional situations (or vice-versa), and Effectiveness, doing the same for concrete vs. abstract circumstances. It has to be stressed that the test was administered after Peter, one of the teachers, decided to give up.

Peter and John[4]

Despite being in his fifties, Peter was still a very motivated teacher, therefore corroborating the previously quoted findings of Hildebrandt and Eom (2009). John was in his forties, and his preceding teaching experiences were in the health sector, so his views on teaching were somewhat different from those of his colleagues acting in the school where he was working at the time of the study.

Speaking in terms of Hoyle's theory (Hoyle, 1974), neither of the teachers could be described as really "extended" or "restricted" in his professionality – at least from what resulted from the observation of their teaching activity. Both were somewhat "in-between", but more proximal to the "extended" pole, being very responsive and reflective teachers. Based on SIA's impressions, Peter was quite effective in the classroom, even if sometimes too down-to-heart, while John was open to innovation, but with some need of improvement in the management of his relationship with the classroom.

After their initial planning of some innovative units, centred on two subjects: "ethic vs. economic values" and a "natural and human cycles from an ecological standpoint," towards the conclusion of the preparatory stage Peter expressed the willingness to give up. Based on the principles underpinning the whole project, after a more widespread explanation, his request was accepted.

The Case of John

Speaking of the project, John says:

> "Two different situations intersected each other. On one side, my personal reflection on teaching and assessment, which continues even today. (…) My need for change met with the project (...). In fact, I started somewhat slowly, since at first I tried to understand the dynamics at work and your role as a teaching consultant, then after a while, I saw that you could give some answers to my needs."

[4] All the names in this article are fictitious

Therefore, the introduction of the new methodology was an answer to John's needs for change. In motivational terms, the proposal constituted a real "goal object" capable of fulfilling some of his inner motives (needs) (Lewin, 1935, 1936; Ostinelli, 2005). This affirmation is also supported by the following statements:

> "This type of teaching methodology goes beyond what is routinely practiced in our school where most meetings are of administrative nature (.. .) The training and the assisted practice started to give answers to my needs (...). All these things motivated me and motivate me to this very day."

> "Even if theoretically based, the approach was really open, and I was surprised by its novelty."

Table 1 shows the grouping matrix used for summarizing the information gathered from both teachers. John appears to be a rather innovative teacher, expressing clearly his will in acquiring new teaching methodologies: "My way to deal with new experiences is fairly open (…) I wanted to acquire a different teaching methodology." From the standpoint of concreteness, John seems to accept the fact that a new methodology can be based on theories, if this fact doesn't imply too much stiffness: "Even if theoretically based, the approach was really open." He did positively acknowledge the role (and therefore the action) of the coach: "I welcome your presence in the classroom, as a figure of support (…) You made it more accessible and understandable through your action." Moreover, even if at the beginning he experienced some lack of understanding, during the course of the experience he became aware of what was going on. This resulted in an increase in his own perception of self-efficacy. His reflection included also a critical advice for the coach (too limited presence during the first year) and a statement on the value of UbD as an effective way to practice more innovative ways of teaching.

Table 1: Grouping matrix

Category	**Explanation**	**John's statements**	**Peter's statements**
Motivation towards innovation	How much a subject is motivated for changing or maintaining a situation	• *My need for change met with the project (...) it could give some answers to my needs* • *My way to deal with new experiences is fairly open* • *I wanted to acquire a different teaching methodology*	• *The proposal of a new project* [leaded me] *to participate with enthusiasm* • *I am ever interested in improvement* • *I find it outdated to assess people through written tests*
Motivation towards concreteness	How much a subject is motivated towards theory or practice	• *Even if theoretically based, the approach was really open.*	• *I am quite a pragmatic person.*
Acknowledgement of the role of the coach	How the role of the coach was actually perceived	• *You made it more accessible and understandable through your action* • *I welcome your presence in the classroom, as a figure of support.*	• *I feel positive that a person from "outside" came to help me.*
Lack of understanding	Misunderstanding of the proposed approach	• *It was a kind of learning on the fly.* • *At the beginning I felt uncomfortable with this methodology, because it is not very easy to understand* • *I started to foresee something different, (...) then the difficulty began to gradually decrease (...) progressively everything started to take meaning*	• *the news were so many (...) and I could not connect the theoretical aspects (...) with my teaching experience.* • [I could not] *see clearly what we were really doing*
Perceived lack of self-efficacy	Sensation not to be able to master the situation	• *I believe that things are now at an interesting stage. Compared to the last year, I see a clear evolution.*	• *I felt that the whole situation was beyond the range of my professional skills*
Reflections	Reflection about the key issues	• *Your presence in the school during the first year was too limited* • *The teacher becomes a coach, a facilitator, while in the traditional vision of school he is a person who holds the knowledge and "fills the jars.*	• *I think that a good connection between theory and practice was actually lacking* • *I would have liked to have more available time. You need to review your planning, providing more time for design.*

Table 2 shows the results obtained by both teachers at the MotOr test, for the dimension Change.

Table 2: Results of both teachers at the MotOr test - Change

		Rational motivation		Stated behavior at workplace		Primary motivation	
		John	**Peter**	**John**	**Peter**	**John**	**Peter**
0.5 – 1.5	Extremely innovative						
1.5 – 2.5	Very innovative			**1.9**		**1.7**	
2.5 – 3.5	Rather innovative	**2.6**	**3.04**		**2.9**		
3.5 – 4.5	Slightly innovative						
4.5 – 5.5	Slightly conservative						**4.8**
5.5 – 6.5	Rather conservative						
6.5 – 7.5	Very conservative						
7.5 – 8.5	Extremely conservative						

Looking at John's results, RM shows a rather strong orientation towards innovation and change, even more pronounced for SB. The data of his PM confirm the fact that John's overall motivation is definitely oriented towards innovation: both the rational and the non-rational level play an important role. The results of the test match his statements in the interview.

The following table shows the results obtained by both teachers at the MotOr test, for the dimension Concreteness.

Table 3: Results of both teachers at the MotOr test - Concreteness

		Rational motivation		Stated behavior at workplace		Primary motivation	
		John	**Peter**	**John**	**Peter**	**John**	**Peter**
0.5 – 1.5	Extremely concrete						
1.5 – 2.5	Very concrete						
2.5 – 3.5	Rather concrete		**3.2**		**3.3**		
3.5 – 4.5	Slightly concrete	**4.2**					
4.5 – 5.5	Slightly theoretical			**4.8**		**5.4**	**5.4**
5.5 – 6.5	Rather theoretical						
6.5 – 7.5	Very theoretical						
7.5 – 8.5	Extremely theoretical						

In terms of concreteness, John's RM shows a preference for fairly concrete situations, but both his SB and PM display a somewhat more abstract trend. Although he doesn't seem to like highly theoretical themes, John is certainly motivated towards slightly abstract situations: this result confirms the information from his interview.

The Case of Peter

For what concerns innovation, it appears that Peter is also a rather innovative teacher, but, from his statements, he seems to be more interested in gradually improving his current practices than in thoroughly innovating them; when coming to concreteness, Peter says clearly that he is a quite pragmatic person. Even if his impression of the action performed by the coach was

positive, he stated in a very clear way that he lacked a clear understanding of the methodology and that therefore he wasn't able to connect the theoretical aspects to his teaching experience. For that reason, in terms of self-efficacy, the result was negative, since he developed the thought that his skills were inadequate for an effective management of the situation. Peter said that the coach should perform a better planning of his coaching time ("You need to review your planning, providing more time for design.") and complained about the lack of connection between theory and practice ("I think that a good connection between theory and practice was actually lacking.")

Looking at Peter's results at the MotOr test in terms of RM and SB at the workplace, he appears to like innovative situations, but not to the extreme. His PM doesn't seem to have a strong influence on his stated behavior. In sum, the test data corroborate the content of his interview.

As far as effectiveness is concerned, Peter seems to prefer more concrete situations. His behavioral data coincide in substance with those of his RM, and are both in agreement with his statements. It is of some interest that the result of his PM lies at an appreciable distance from both RM and SB. However, his behavior appears to be more influenced by his rational motivation.

Analysis of Both Cases

John's case:

- The recognition of a deficiency in the usual way to teach was clear:
  "In fact I found a number of limitations, and a certain wariness in doing not only the usual summative assessments, but also the formative ones in a rather traditional way."

- The recognition of a better way - namely the rational understanding of the methodology – at the beginning was not very clear and developed itself only gradually thereafter.:
  "I started somewhat slowly, since at first I tried to understand the dynamics at work and your role as a teaching consultant, then after a while, I saw that you could give some answers to my needs. (...) I was kind of learning on the fly. There were documents and theories, but my approach was to learn by doing. Even if

theoretically based, the approach was really open, and I was able to get excited by what was new."

- John's motivation towards innovation and partly towards theory is also fairly robust and the data coming from the MotOr test allow to fully estimate this tendency:
  "When the project was presented, I was concerned also because it calls on the teachers to develop a reflection around their current practices, and this goes beyond what is routinely practiced in our school. Here most meetings are of administrative nature (.. .) The training and the assisted practice started to give answers to my needs (...). All these things motivated me and still motivate me."

Summing up, John's motivation towards improvement was high, and was basically composed by a strong need for change and a moderate need for theory, which lead him to accept the first stage of the experience, despite its more theoretical nature and the stated difficulties in term of understanding. Concerning his level of consciousness about the potential improvement, John was aware of the presence of some gaps in his professional practice, and he gradually found the answers to these issues in the progressive understanding of the proposed methodology. It is possible that his motivation in the early stages overcame his relative lack of understanding:

"Actually, at the beginning I felt uncomfortable with this methodology, because it is not very easy to understand."

Probably, in John's case, as it appears also from his words, motivation played a *sustaining* function, leading him to perseverate in the experience, even without a full understanding of the events. This is somewhat analogous to the case of volunteers' motivation reported by Finkelstein (2006; 2008).

Peter's case:

- The recognition of a need for improvement was clear,
  "I am always interested, as I said, in improvement, both at an individual and school level. I find it outdated to assess people through written tests."

- The recognition of a better way - namely the understanding of the methodology - was never fully developed and soon became a problem,
  "I felt that the whole situation was beyond the range of my professional skills. The theoretical aspects were too difficult: I could not make a connection between UbD and my daily practice in the classroom, in a fashion to see clearly enough what we were really doing."

- Peter's motivation towards innovation was less pronounced than John's, while his motivation towards concreteness was stronger, as confirmed by his results at MotOr test
  "Personally, I think that inside your school there is always the need to improve something. (...).I could not connect the theoretical aspects that you proposed with my teaching experience. I am quite a pragmatic person, and this sent me in crisis."

Summing up, Peter wasn't able to develop a real understanding of what he was doing and the global level of his motivation was probably below a critical threshold. The circumstance, with its innovative and somewhat abstract features, wasn't a real goal object for his needs, asking for more concrete and slightly less innovative situations. Therefore, it is plausible that his motivation couldn't exert a sustaining function and make up for some time for his lack of understanding, like in John's case. Consequently, he didn't express a behavior oriented towards the adoption of the new methodology.

Discussion

The contribution of coaching to the effectiveness of teachers' professional development stressed by a number of scholars (Borko, 2004, Le Fevre & Richardson, 2002) was substantially confirmed. John's words confirm what Darling-Hammond says (2009): the current bureaucratic approach isn't effective in producing teacher change; a professionally-oriented perspective can be a more appropriate answer.

This case shows also that the trust in a successful implementation of the innovation (Abrami et al., 2004; Bray-Clark & Bates, 2003) coupled with the presence of follow-up are paramount, in particular when analyzing the case of Peter. The persistence of the strength of

motivation for improvement along teachers' professional career postulated by Hilderbrandt and Eom (2009) is also corroborated, since both teachers were motivated for innovation, even if they weren't novices. Moreover, it appears that, under some conditions, motivation can play a "sustaining" role, leading the subject to bear a lack of understanding for a limited span of time.

In reference to the first research issue (the relationship between teacher motivation and understanding in a process of coaching for school innovation) from this case study it appears that motivation for innovation can temporarily sustain teacher participation during the early stages of the introduction of innovative teaching methodologies, in particular in presence of understanding gaps. Therefore, change agents aiming at the introduction of innovation in teaching need to be aware of this opportunity.

The second theme was the role and the needed amount of information. In fact, the SIA used the MotOr test only after Peter gave up. It is clear that if the test were administered before of the coaching process, this information could help the SIA in a substantial way in acting differently. So, if the change agent has to rely on the sustaining function of motivation it is important to act on the basis of sufficient information. The use of adequate instruments can be really helpful in this task.

Conclusions

Reflecting on the relationship between research and action, the case presented in these pages shows that the development of a circular process can lead the change agent to learn from the situation (Efron & Ravid, 2013) and plan some changes for the improvement of the effectiveness of his approach. Even if the problem was located at the action level (the improvement of assessment in a school through the introduction of UbD and Peter's related failure in adopting this methodology), its roots were however located at the "research" level. Indeed, the reflection on the relationship between understanding of UbD, motivation for innovation and assimilation of the methodology should be based on a more rigorous knowledge of Peter's motivation and on its relationship with his behavior, when he wasn't able do develop a satisfactory understanding of what was going on. All this should lead (and, after this experience *de facto* led) to a revision of the theoretical framework, where the need for a more rigorous knowledge of teacher motivation when assisting individuals in performing change processes was included as a key factor. It is clear that some information coming from the interviews and from

the interaction with the teachers could have given some hints to the SIA, but they weren't sufficient for really changing his action. Indeed, only with the administration of the questionnaire he was able to get a more precise picture of Peter's actual motivational situation, combining information from the interview with data coming from the test and understanding in this way what happened. This highlights the importance to rely on appropriate tools, a consideration that leaded the Ostinelli to plan the development of a specific questionnaire for the measurement of motivation for innovation in teaching, being currently at its project stage.

From a more concrete viewpoint, the SIA should have given more importance to some negative signals coming from Peter, devoting additional time to his doubts, trying to be more pragmatic, thus providing situations (goal objects) more appropriate to his needs of concreteness, but this didn't happen. A similar action would probably have proved helpful in order to increase both his motivation and his understanding and in avoiding the frustration that he described in his interview.

This study has also some limitations. Because of its mainly qualitative nature and of the reduced number of the participating subjects, whole generalizations cannot be made, but the results can shed some light on the relationship between teacher understandings, motivations and changes in teaching. Moreover, the issue could be the object for a more extended inquiry. Another question is that the Ostinelli of the article and the change agent are the same person; this could imply a lack in objectivity; however, this feature is intrinsic to the role of SIA, and have some common points with the debate on participating observation (Jorgensen, 1989).

In general, the research on the subject analyzed in these pages is rather limited. Various scholars stress the fact that the development of teachers' professional competency is one of the necessary conditions for a real school improvement (Darling-Hammond, 2009; McLaughlin & Oberman, 1996; Hargreaves, 2003). Since the adoption of innovative practices is a key element in this process, the relationship between the fulfillment of teacher needs and the understanding and implementation of new teaching practices deserves to be further investigated.

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